

WHAT IS CLAIMED IS:

1. A composition for stabilizing the structure and nucleic acids of at least one cell, said composition being comprised of:

- (a) a first substance capable of precipitating or denaturing proteins, comprising at least one alcohol or ketone; and
- (b) a second facilitator substance to aid in the infusion of the first substance into at least one cell,

wherein the concentrations of said first and second substances are effective to stabilize the structure and nucleic acids of said at least one cell.

2. The composition of Claim 1 wherein said at least one alcohol or ketone is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol and acetone.

3. The composition of Claim 1 wherein said second substance is selected from the group consisting of dimethyl sulfoxide, ethylene glycol and polyethylene glycol.

4. The composition of Claim 1 wherein said first substance is comprised of one alcohol or ketone.

5. The composition of Claim 4 wherein said concentrations of said first and second substances in said composition are in a ratio of 4:1 (first substance : second substance).

6. The composition of Claim 1 wherein said first substance is comprised of a first alcohol or ketone and a second alcohol or ketone.

7. The composition of Claim 6 wherein said concentrations of said first and second substances in said composition are in a ratio of 2.5:2.5:5 (first alcohol or ketone : second alcohol or ketone : second substance).

8. The composition of Claim 4 wherein said concentrations of said first and second substances in said composition are in a ratio of 1:1 (first substance : second substance).

9. The composition of Claim 5 wherein said first substance is methanol and said second substance is dimethyl sulfoxide.

10. The composition of Claim 7 wherein said first alcohol or ketone is methanol, said second alcohol or ketone is ethanol and said second substance is dimethyl sulfoxide.

11. The composition of Claim 5 wherein said first substance is ethanol and said second substance is dimethyl sulfoxide.

12. The composition of Claim 8 wherein said first substance is methanol and said second substance is dimethyl sulfoxide.

13. The composition of Claim 1 wherein said nucleic acid is DNA.

14. The composition of Claim 1 wherein said nucleic acid is RNA.

15. The composition of Claim 14 wherein said RNA is ribosomal RNA.

16. The composition of Claim 1 wherein said at least one cell is a prokaryote or eukaryote.

17. The composition of Claim 1 wherein said at least one cell is a microorganism.

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